retrieving module 413 receives the input name from receiving module 412 and maps the input name against mapping database 452 to retrieve all addresses mapped to the input name. Mapping database resides in disk 451 which is part of disks 450. After receiving the requester identifier from receiving module 412 and all the retrieved mapped addresses

5   from map retrieving module 413, selecting module 414 retrieves from preference database 453 a preference number associated with each retrieved mapped address and the requester identifier. Preference database 453 illustratively also resides in disk 451 and comprises a table such as shown in FIG. 3. Each entry of the preference table comprises an address such as the delivery server address in FIG. 3, a requester identifier such as the

10 destination domain in FIG. 3, a preference number, and optionally a TTL value. Selecting module 414 selects an address based on the retrieved preference numbers, preferably, one with the highest preference number. Finally, returning module 416 returns a response comprising the selected address to the requester by invoking TCP/UDP services from operating system 420.

15   Optionally and in accordance with the principles of invention, TTL assigning module 415 dynamically assigns a TTL value to the selected address as a function of the associated preference number, and returning module 416 returns a response comprising both the selected address and the assigned TTL value. Preferably, the selected address is assigned the largest TTL value. It should be noted that name server software 411 may be

20 initially recorded in a secondary memory such as a floppy disk (not shown), a tape (not shown), or a CD (not shown) before being loaded into the main memory (not shown) of DNS 400.   *Fig. 5a and Fig. 5b*   *JH*
                                                                                    6/7/05
         Referring now to ~~FIG. 5,~~ an illustrative method for selecting one of the mapped
, addresses by a content provider DNS is shown. At step 510 as shown in FIG. 5a, at least

25 one name is entered in at least two entries in a mapping table. Step 510 is generally done once but it is incurred again if an update is needed. At step 520, a preference number is entered in each entry of a preference table such as shown in FIG. 3. Each entry of the preference table comprises an address, a requester identifier, and a preference number, wherein the requester is identified by a requester identifier and at least one requester

30 identifier is listed in more than one entry. Step 520 is illustratively implemented

manually but as mentioned previously, it can be done automatically. Step 520 is not incurred for every request. After the mapping table and the preference table have been populated in steps 510 and 520, the following four steps are taken for each received request. First, at step 530, the content provider DNS retrieves from the mapping table all

5   addresses mapped to the input name. Second, at step 540, the content provider DNS retrieves from the preference table a preference number associated with each retrieved mapped address and the requester identifier identifying the requester. Third, the content provider DNS selects one of the retrieved mapped addresses based on the retrieved preference numbers. For example, the content provider DNS selects the retrieved

10   mapped address with the highest preference number. Finally, at step 550, the content provider DNS returns a response comprising the selected retrieved mapped address.

Fig. 6 a and Fig. 6 b

FIG. 6 illustrates another selection method where a TTL value is dynamically assigned to the selected retrieved mapped address. The steps performing the same functions as those in FIG. 5 are labeled the same and are not described again. Step 660 is

15   added to dynamically assign a TTL value to the entry in the preference table associated with the selected retrieved mapped address as a function of the preference number in that entry. Preferably, an assigned TTL value to an entry is directly related to the preference number in that entry, such that an entry with a higher preference number is assigned a larger TTL value. Using the preference table in FIG. 3 as an example, if the addresses in

20   rows 320-322 are retrieved from the mapping table in step 530, address 154.192.16.15 in row 322 is selected because it has the highest retrieved preference number of 9 and, thus, is also assigned a largest TTL value of 9. Other entries associated with other retrieved mapped addresses and the requester identifier identifying the request can be updated as well. Although in the illustrative method, step 660 is performed every time an address is

25   selected, the assignment can be done before or after an address has been selected. For example, the assignment can be done when a preference number has been updated. In that case, step 660 is changed to just retrieve the corresponding TTL value. Step 670 performs a similar function as step 570 except that the response also comprises the assigned TTL value.

30   A content delivery system other than those disclosed can be implemented using